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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,957	03/04/2005	Hideyuki Sugioka	03500.017541	9920

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NEW YORK, NY 10112

EXAMINER

HEPPERLE, STEPHEN M

ART UNIT	PAPER NUMBER
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3753

MAIL DATE	DELIVERY MODE
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05/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,957

Applicant(s)

SUGIOKA ET AL.

Examiner

Stephen M. Hepperle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,7,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/23/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

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Claims 2 and 7, indicated as containing allowable subject matter, are newly rejected in this action. Therefore this action is not made final.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Pauliukonis (4,114,645). Pauliukonis (Fig. 3) shows a bistable valve having a variable member 72 that is pushed to connect channel 67 with either channel 69 or 69a by a thermal pressure generating means 83 or 83a. The additional limitation of calling the device “micro” has been given no weight as there is no structural distinction. Furthermore, while “micro” indicates “small”, such is seen as a relative term.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 7, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sticht. Sticht (Fig. 2) shows two pressure generating means 34, the left one being in the flow path to channel 15. The generators are bubbles that are expanded by heat (col. 7) to move the central variable member to connect channel 18 to either channel 15 or 16. The valve is stable in

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either position. It would have been obvious to allow the right hand bubble 34 to be exposed to the fluid channels in the same manner as the left bubble, to allow a shorter valve and to eliminate the need for the right most o-ring of the valve. Note that the US reference is based on a PCT document published on 12 August 1999. Regarding claim 7, it would have been obvious to use Sticht to control liquids, where the output of the valve returning from a use would be collected in a tank (and thus be considered "waste"). The additional limitation of calling the device "micro" has been given no weight as there is no structural distinction. Furthermore, while "micro" indicates "small", such is seen as a relative term.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Hopkins. Hopkins (Figs. 1-3) shows an electrochemical actuator for a valve that is bistable. Current in one direction creates pressure in the actuation chamber, thus creating pressure (col. 7) which closes the valve. Reversing current removes the bubbles, removing the pressure, allowing the valve to open. The valve can be left in either position by removal of current. The diaphragm 30 is seen as a "film".

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pauliukonis or Hopkins. It would have been obvious to use either of the above valves to control liquids, where the output of the valve returning from a use would be collected in a tank (and thus be considered "waste").

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Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hopkins in view of Sticht. Hopkins shows an electrochemical actuator for a valve that is bistable (Fig. 4) and is intended to be micro-miniaturized (col. 4, lines 58-64). It would have been obvious to use the actuator (downsized) to power a downsized Sticht valve in order to make the valve a "micro" valve.

Claims 3-5 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Note that claim 2 is no longer seen as allowable as it has been broadened by cancellation of "resin".

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lindberg shows another bistable pressure actuator.


Applicant's arguments filed 23 April 2007 have been fully considered but they are not persuasive. The references as applied show the recited limitations as stated above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Hepperle whose telephone number is 571-272-4913. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Stephen M. Hepperle
Primary Examiner
Art Unit 3753

SMH